

Central Bank Operations



III. Central Bank Operations

1. Overview

The Bank assessed economic and financial conditions at home and abroad while formulating monetary policy for the year 2019. The international economic and trade prospects remained clouded by uncertainties, while the domestic economy witnessed moderate growth and the output gap was marginally negative. In addition, the inflation outlook was mild, and Taiwan's real interest rates still registered around the middle range among a host of economies. In light of the above developments, the Bank held the policy rates unchanged to help safeguard price and financial stability and foster economic growth.

During the course of year 2019, the Bank continued to conduct open market operations by issuing certificates of deposit (CDs) in response to economic and financial conditions. Through such operations, reserve money and the monetary aggregate M2 were maintained at appropriate levels with respective annual growth rates of 6.42% and 3.46%. Both readings were higher than the GDP growth rate of 2.71% over the same period, indicating sufficient market liquidity to support economic activity.

Meanwhile, the Bank announced a change in its monetary targeting approach. Starting from year 2020, the target range for M2 growth would become the reference range, which remains between 2.5% and 6.5%. It would not be reset on an annual basis. However, M2 would still play a role in anchoring inflation expectations. In the event of persistent deviations in M2 growth from the reference range or structural changes, the Bank will conduct a review and make necessary adjustments in a timely manner (see Box 2 for more).

In terms of macroprudential policy on the housing sector, the Bank kept the regulations governing high-value housing loans in place over the year, with the loan-to-value ratio still capped at 60%. This was to reflect higher credit risks for banks when extending real estate loans as prices for high-value homes tend to be more volatile than regular ones. The Bank also continued its efforts in urging banks to enhance risk management of real estate lending in order to sustain financial stability.

In the foreign exchange (FX) market, the supply of FX liquidity was broadly larger than the demand in 2019. To maintain dynamic stability of the NT dollar, the Bank conducted symmetrical smoothing operations, with a net buying of US\$5.5 billion for the year as a whole. The Bank also continued to approve bank branches as authorized FX banks and reviewed FX business related laws and regulations as necessary so as to facilitate authorized banks' competitiveness and service quality.

With the aim of advancing the safety and efficiency of payment system operation and fostering the development of financial inclusion, the Bank stepped up efforts to reinforce financial infrastructure and urged clearing institutions to strengthen information security for payment systems.

Furthermore, to be in line with government policy in encouraging the use of electronic payments and to diversify channels to pay national treasury fees, the Bank rolled out smartphone app-based and QR code-based mobile payment methods. For the former, the public can pay the fees on the nationwide bill payment service (e-Bill) mobile app of the Financial Information Service Co., Ltd., through a newly added payment option inside the app, a feature designed at the request of the Bank. For the latter, the Bank launched the "QR Code-Based National Treasury Fee Payment Mechanism," allowing the public to make payments through the Taiwan Mobile Payment app or other mobile banking apps by scanning QR codes.

In the meantime, in response to the evolving trend of financial technology development, the Bank formed a task force on central bank digital currencies (CBDCs) to undertake research on CBDC, blockchain, and electronic payments. Moreover, the Bank has been collaborating with academics and industry specialists to assess the feasibility of CBDC. Nurturing talent in this field is also one of the Bank's focuses.

On the other hand, to strengthen the Bank's communication with the public, an official Facebook account was established in early 2019. Through increasing its online presence, the Bank aimed to reach out to a wider audience by providing posts about the Bank's policies as well as publishing education materials to enhance financial awareness.

2. Monetary Management

Holding Policy Rates Steady to Maintain Price and Financial Stability

For the year 2019, the global economy witnessed moderate growth yet remained shrouded in many uncertainties. Meanwhile, the domestic economy posted a mild expansion, a slightly negative output gap continued, and the inflation outlook stayed stable. Furthermore, domestic real interest rates registered around the middle range among a host of economies. Based on the above assessment, the Bank held policy rates unchanged in the course of the year in order to maintain price and financial stability and achieve sustained economic growth.

At the end of 2019, the discount rate, the rate on accommodations with collateral, and the rate on accommodations without collateral were kept unchanged at their current levels of 1.375%, 1.75%, and 3.625%, respectively.

Conducting Open Market Operations to Ensure the Smooth Functioning of Financial Markets

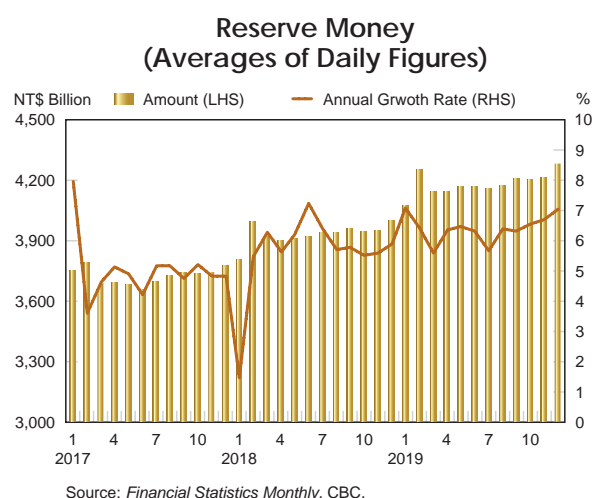
In 2019, the Bank managed market liquidity through open market operations by issuing certificates of deposit (CDs) in response to domestic economic and financial conditions, which helped maintain reserve money, monetary aggregates, and the overnight call loan rate at appropriate levels.

(1) Managing Market Liquidity

The Bank continued to conduct open market operations by issuing CDs. At the end of the year, the total outstanding amount of CDs issued by the Bank was NT\$7,858 billion.

(2) Higher Growth in Reserve Money

Reserve money grew at a faster pace of 6.42% for the year 2019, 0.81 percentage points higher than the previous year's figure. In terms of the monthly movements of reserve money, owing to stronger demand for funds prior to the Lunar New Year holidays, the annual growth rate of reserve money reached a yearly high of 7.11% in January. Afterwards, the annual growth rate hit a yearly low of 5.59% in March, mainly because of a reverse flow of currency back to the banking system after the Lunar New



Year holidays. In subsequent months, growth rates remained relatively stable.

On the demand side, reserve money, measured on a daily average basis, increased by NT\$253 billion over the previous year. Of the components, net currency increased by NT\$167 billion and the annual growth rate rose to 8.77% from 7.60% the previous year; reserves held by financial institutions expanded by NT\$86 billion, with the annual growth rate trending up to 4.22% from 3.80% the previous year. Currency held by the non-bank public grew moderately because the low interest rates paid on bank deposits enhanced the willingness to hold currency in hand. Meanwhile, the overall growth rate of banks' reserves increased compared to the previous year as higher growth in transaction deposits raised banks' demand for reserves.

From the supply side perspective, reserve money increased by NT\$244 billion at the end of the year. According to the balance sheet of the Bank, which revealed the sources of changes in reserve money, the increase was mostly attributable to the growth in foreign assets held by the Bank and the decrease in time redeposits placed by banks.

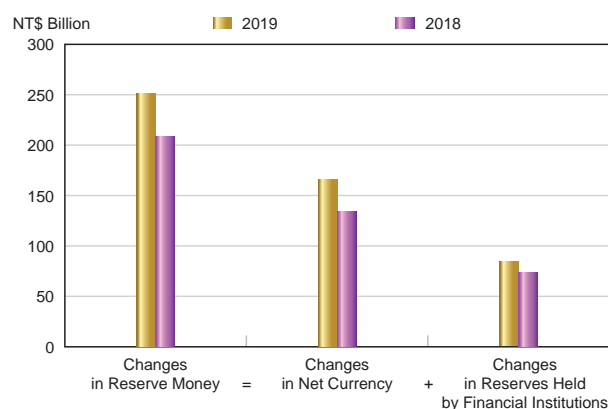
(3) Overnight Call Loan Rate Broadly Stable

In 2019, the Bank continued to conduct open market operations to maintain excess reserves and the overnight call loan rate at appropriate levels. The annual average excess reserves of financial institutions reached NT\$45 billion, slightly lower than the NT\$48 billion of the previous year. The annual average overnight call loan rate remained broadly stable at around 0.180% during the year except for June, in which the overnight call loan rate moved up to 0.202%.

(4) M2 Growth Stable and Within Target Range

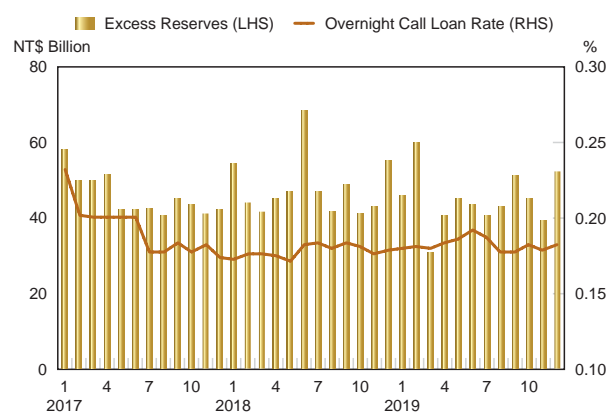
The M2 growth target range for 2019 was set at 2.5% to 6.5%, the same as the previous year. For the year as a whole, M2 registered an annual growth rate of 3.46%, down by 0.06 percentage

**Changes in Reserve Money
(Averages of Daily Figures)**



Source: *Financial Statistics Monthly*, CBC.

**Excess Reserves and
Overnight Call Loan Rate**



Source: *Financial Statistics Monthly*, CBC.

points from the previous year. The annual growth rates of M2 in every month of the year remained within the Bank's target range.

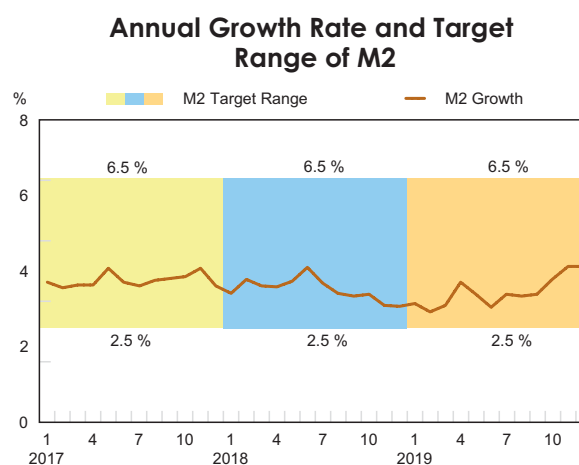
With regard to the monthly movements in 2019, an increase in bank loans and investments as well as net foreign capital inflows brought the M2 growth rate up to 3.14% in January. Later, it reached a yearly low of 2.92% in February, reflecting slower growth in bank loans and investments. In the following two months, the M2 growth rate trended upward on account of capital inflows and reached 3.71% in April. Then, the M2 growth rate moved down to 3.05% in June because of net foreign capital outflows and weaker growth in bank loans and investments.

From July onwards, the M2 growth rate returned to an uptrend and hit a yearly high of 4.14% in November, driven by stronger expansion in bank loans and investments and net foreign capital inflows. The M2 growth rate marginally dropped to 4.12% in December.

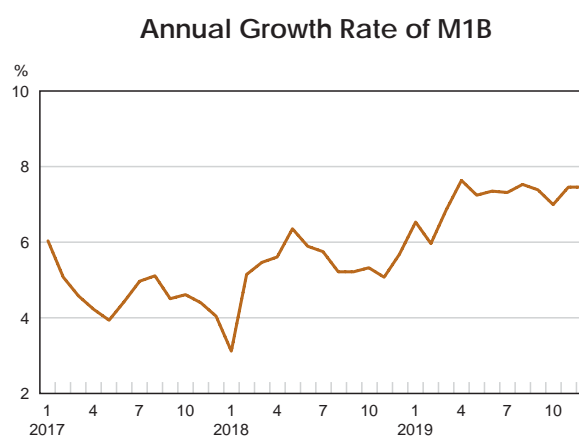
The annual growth rate of the monetary aggregate M1B, measured on a daily average basis, went up by 1.83 percentage points to 7.15% in 2019. The rise in M1B growth was primarily due to an increase in the transaction demand for money amid moderate expansion in the domestic economy.

As for the monthly movements, continuous net foreign capital inflows and a gradual rise in stock prices led to the M1B growth rate displaying a broad uptrend for the first four months except in February, in which it was dragged down by softer growth in passbook deposits held by enterprises because of longer Lunar New Year holidays in 2019. After registering an all-year high of 7.65% in April, the growth rate of M1B dropped to 7.23% in May as it was the annual individual income tax declaration period and income tax revenues rose compared to the previous year.

From June onwards, despite decelerated growth in transaction deposits sending the M1B growth rate down to 6.99% in October, the growth rate broadly exhibited a steady uptrend and reached 7.44% in December.



Source: Financial Statistics Monthly, CBC.



Source: Financial Statistics Monthly, CBC.

Continuing with Macroprudential Policy on High-Value Housing Loans

For the year 2019, as largely volatile high-value housing prices could still raise banks' real estate-associated credit risks, the Bank kept the loan-to-value ratio capped at 60% on high-value housing loans and continued to urge financial institutions to strengthen risk management of real estate loans.

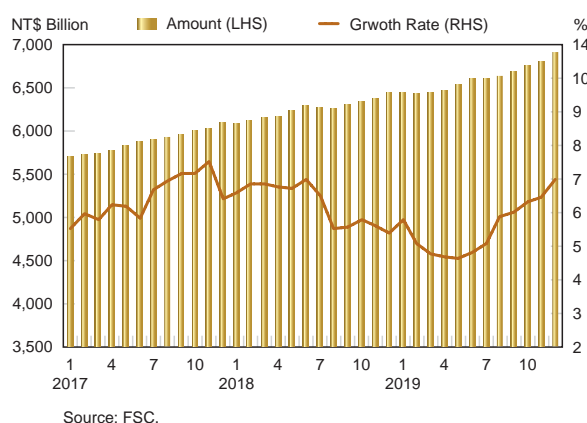
In the housing market, transactions increased and prices gradually trended up in 2019. Furthermore, homebuilders stepped up land acquisition and the offering of new housing projects, while banks recorded faster year-on-year rises in loans for home purchases and building construction. Looking ahead, the Bank will continue to keep a watchful eye on financial institutions' management of risks associated with real estate lending and developments in the housing market. Appropriate monetary policy actions will be adopted in a timely manner to safeguard financial stability.

Facilitating SME Funding

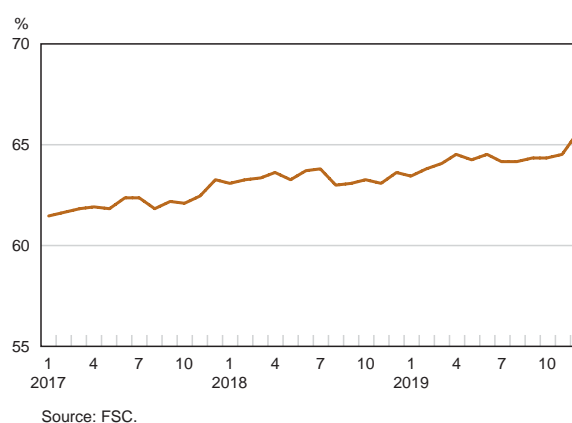
To sufficiently meet the funding needs of small and medium-sized enterprises (SMEs), the Financial Supervisory Commission (FSC) continued to encourage lending to SMEs by domestic banks, while the Bank also urged commercial banks to increase lending to SMEs.

At the end of 2019, the outstanding loans extended to SMEs by domestic banks amounted to NT\$6,898 billion, increasing by NT\$460 billion from the end of the previous year and far exceeding the annual target of increased lending of NT\$270 billion set by the competent authorities. The outstanding SME loans recorded an annual growth rate of 7.14% at the end of 2019, higher than the 5.50% at the end of 2018. Furthermore, the ratio of outstanding SME loans to loans extended to all private enterprises rose slightly from 63.63% at the previous year end to 65.61% at the end of 2019.

Outstanding Loans Extended to SMEs



Ratio of Outstanding Loans Extended to SMEs to Those Extended to Private Enterprises



Accepting Redeposits from Financial Institutions

Accepting redeposits from Chunghwa Post, the Agricultural Bank of Taiwan, and commercial banks is another instrument for the Bank to influence banks' reserve positions in order to promote financial stability. At the end of 2019, the outstanding redeposits of Chunghwa Post stayed broadly unchanged at NT\$1,624 billion, whereas the redeposits of the Agricultural Bank of Taiwan and of commercial banks decreased modestly to NT\$143 billion and NT\$359 billion, respectively.

Box 2

Adjusting M2 Growth Target Range to a Reference Range from 2020 Onwards

1. Considerations for Adjusting M2 Growth Target Range to a Reference Range from 2020 Onwards

Starting from 2020, the M2 annual growth target range will be adjusted to a reference range. The main considerations are as follows:

- (1) In addition to M2 growth, the Bank also closely monitors and considers other key economic and financial indicators, such as inflation expectations, the output gap, interest rates and exchange rates, credit conditions, and asset prices. M2 growth remains one of the crucial reference indicators for monetary policy.
- (2) According to the Bank's past experiences, M2 growth was easily affected by factors such as cross-border capital flows, asset portfolio diversification, and financial innovations. Following the global financial crisis, Taiwan has witnessed a weakening in the short-term relationship between M2 and prices. Nevertheless, the mid- to long-term relationship among M2, output, and prices remains relatively stable. An appropriate pace of M2 growth would be conducive to attaining the ultimate objective of price stability. Furthermore, M2 also conveys important information with regard to financial stability.
- (3) As Taiwan is a small open economy, it is important to ensure monetary policy autonomy and flexibility. Adjusting the target range for M2 growth into the reference range would provide greater operational flexibility. Allowing M2 growth within an appropriate range to account for the uncertainties over macroeconomic and financial variables would help guard against excess volatility in short-term interest rates and would be consistent with the Bank's efforts in maintaining dynamic stability of the exchange rate.

2. The Bank's Future Policy Practice

- (1) From 2020 onwards, the target range of M2 growth will become a reference range. In fact, since 2009, the M2 annual growth rate has generally stayed within the target range of 2.5%

to 6.5%, which has been conducive to attaining a low and stable inflation rate and sufficient to support economic activity. Furthermore, the model-projected annual growth rate of M2 demand in 2020 remained within the aforementioned range.¹ Therefore, the M2 growth reference range for 2020 remains at 2.5% to 6.5%.

- (2) Considering that M2 is a mid- to long-term indicator, the Bank will not set the reference range of M2 growth on an annual basis. However, as M2 growth still serves as a valuable reference, the Bank will continue to keep track of M2 growth trends in the monthly monetary growth forecast meetings. Moreover, at the end of each year, the Bank will also review the developments of M2 growth during the year and the outlook for money demand in the following year. The review will be used as a reference for monetary policymaking.
- (3) A multitude of uncertainties such as frequent international capital flows, asset portfolio diversification, and the rapid development of financial technology may cause the M2 growth rate to deviate from the reference range. In the event of continued deviation from the 2.5%-6.5% range or structural changes, the Bank would conduct a review to analyze the potential factors contributing to the changes or deviations, so as to make adjustments as warranted and in a timely fashion.

¹ For the model-projected results, please refer to "Adjusting M2 Growth Target Range to a Reference Range from 2020 Onwards," *Quarterly Bulletin*, Central Bank of the Republic of China (Taiwan), Vol.41, No.4, pp.7-12 (in Chinese).

3. Foreign Exchange Management

Taiwan is a small open economy which adopts a managed float exchange rate regime. Under the regime, the NT dollar exchange rate is in principle determined by market forces. In the event of excessive exchange rate volatility, the Bank would conduct "leaning against the wind" operations to stave off adverse implications for economic and financial stability. The Bank continues employing a flexible exchange rate policy and maintaining the dynamic stability of the NT dollar exchange rate. The Bank is also committed to facilitating the order and development of the foreign exchange (FX) market.

Promoting the Sound Development of the Foreign Exchange Market

The NT dollar exchange rate vis-à-vis the US dollar (USD) was generally steady in the first four months of 2019. However, this was followed by a series of depreciations during May to early August when several flare-ups of US-China trade tensions markedly weakened the renminbi, dragging down the currencies of the related supply chain economies including Taiwan. After mid-August, the global market size of negative-yielding bonds continued growing to new record levels as investors responded to global economic slowdown, trade policy uncertainties, and monetary easing by major central banks. Against this backdrop, yield-seeking international capital flows turned to Asia, favoring Taiwan in particular, and the NT dollar appreciated again.

In October, the US signed the "phase one" trade deal with China, and Britain and the European Union (EU) also approved an agreement on the UK's withdrawal from the EU. Those deals cooled trade tensions and the risk of a so-called "hard Brexit," bolstering non-USD currencies. Furthermore, foreign investors increased stock buying in the Taiwan market on the back of trade diversion benefits and repatriating Taiwanese investment flows. The NT dollar strengthened as a result.

In general, Taiwan's foreign exchange market witnessed a greater forex demand than supply in the first half of 2019, prompting the Bank to sell a total of US\$1.1 billion to ensure US dollar liquidity. During the latter half of 2019, supply exceeded demand as foreign capital surged into the local FX market, and the Bank conducted smoothing operations accordingly. For the year as a whole, the Bank's net forex buying amounted to US\$5.5 billion.

Foreign Currency Call Loan and Swap Market Management

In order to provide the financial system with sufficient foreign currency liquidity to meet funding needs, including those for corporations to venture into overseas markets, the Bank appropriated seed capital for the Taipei Foreign Currency Call Loan Market, including US\$20 billion, €1 billion and ¥80 billion.

Furthermore, through foreign currency call loans and swaps conducted by authorized foreign exchange banks, the Bank continued to support corporations and insurance companies by meeting the needs for foreign currency liquidity and exchange rate hedging.

Foreign Exchange Reserve Management and Foreign Currency Liquidity of the Bank

The Bank manages its foreign exchange reserves based on the considerations of liquidity, safety, and profitability. The Bank keeps watch on the global economic and financial situation and adjusts the FX reserves as warranted.

Currently, US dollar assets make up a larger share in Taiwan's foreign exchange reserves than the COFER (Currency Composition of Official Foreign Exchange Reserves) average published by the IMF. As of the end of 2019, Taiwan's total FX reserves stood at US\$478.1 billion with an increase of US\$16.3 billion or 3.5% compared to the end of 2018, mainly attributable to returns from FX reserve investments. Combining the reserves held in gold valued at US\$5.1 billion, the Bank's reserves assets totaled US\$483.2 billion at the end of the year.

While FX reserves are the Bank's foreign currency claims on nonresidents, such claims on residents consist of US dollars held under swap agreements, foreign currency deposits with and loans to domestic banks, which amounted to US\$100.3 billion, US\$32.2 billion, and US\$6.3 billion, respectively, at the end of 2019.

In terms of foreign currency liquidity, the total amount, including foreign currency claims and gold, reached US\$625.6 billion at the end of 2019.

Capital Flow Management

In line with its efforts to promote financial liberalization and internationalization, the Bank's FX management mainly relies on the market mechanism and capital can, in principle, flow freely in and out of Taiwan. As of 2019, foreign currency capital not involving NT dollar conversion has been able to flow freely. Additionally, there are no restrictions on financial flows involving NT dollar conversion for goods and service trade, nor for direct and securities investments approved by the competent authorities.

However, regulation exists for short-term remittances. Annual remittances for an individual resident within US\$5 million and for a juridical person within US\$50 million can be settled by banks directly, while annual remittances above the aforementioned amounts require the approval of the Bank. Each transaction for a nonresident within US\$0.1 million can be settled by banks directly, whereas any transaction amount above that threshold requires the approval of the Bank.

Key measures with regard to the management of capital flows in 2019 included:

(1) Amending Corresponding FX Regulations

Article 27 of the *Directions for Banking Enterprises While Assisting Customers to Declare Foreign Exchange Receipts and Disbursements or Transactions* was amended with immediate effect on January 29, 2019. Accordingly, private employment service organizations no longer need to present a document of evaluation certification when making declarations of foreign exchange settlements relating to salaries of foreign workers in Taiwan on their behalf, as such a document was deemed irrelevant to the purpose of this legislation.

(2) Promoting the Internationalization of Taiwan's Capital Market

In 2019, cases of fund-raising by domestic and foreign institutions through bond issuance, approved by or filed for record to the Bank, are shown in the following table.

Fund-Raising by Domestic and Foreign Institutions in 2019

Institution	Method	Number	Amount
Foreign companies	IPO on TWSE & TPEX and registration on the Emerging Stock Board	16	NTD 5.12 billion
	NTD convertible bonds	12	NTD 7.99 billion
	International bonds	42	USD 23.38 billion
		10	RMB 5.97 billion
		2	ZAR 7.83 billion
	NTD-denominated foreign bonds	1	NTD 12.0 billion
	Overseas convertible bonds	1	USD 0.1 billion

Note: TWSE is the Taiwan Stock Exchange; TPEX is the Taipei Exchange.
Source: Department of Foreign Exchange, CBC.

(3) Approving Residents' Investments in Foreign Securities

In 2019, the Bank approved the following investments in foreign securities by residents.

CBC-Approved Residents' investments in Foreign Securities

Institution	Method/Instrument	Amount
Securities investment trust enterprises (SITEs)	130 domestic SITE funds (including 57 NTD-foreign multiple currency SITE funds)	NTD 3,534.8 billion (including multiple currency funds: NTD 1,402.0 billion)
	2 SITE private funds	NTD 21.0 billion
	4 domestic futures trust funds for unspecified persons	NTD 65.0 billion
Life insurance companies	Non-discretionary money trusts managed by financial institutions	USD 0.65 billion
	Investment for their own accounts	USD 4.35 billion
	Lowering overseas investment hedge positions	USD 5.49 billion
Five major government pension funds and employment insurance fund	Investment for their own accounts	USD 6.13 billion

Source: Department of Foreign Exchange, CBC.

Management of FX Business of Financial Institutions

(1) Authorized FX Banks

Pursuant to the *Central Bank of the Republic of China (Taiwan) Act* and the *Foreign Exchange Regulation Act*, the Bank reviews, authorizes and supervises banks to conduct FX business accordingly. In 2019, the Bank continued to approve bank branches as authorized FX banks and loosened restrictions on FX derivative product business in order to facilitate authorized FX banks' competitiveness and service quality. Related developments in 2019 were as follows.

At the end of 2019, there were 3,461 authorized FX banks in total, which included 37 head offices and 3,386 branches of domestic banks, 35 branches of foreign banks, three branches of Mainland Chinese banks, as well as 4,690 authorized money exchangers, post offices, and financial institutions authorized to engage in basic FX business.

The Bank amended the *Regulations Governing Foreign Exchange Business of Banking Enterprises* on February 15, 2019, with the following changes: (1) adding provisions governing the qualifications for internet-only banks, which would be allowed to set up in Taiwan in the same year, to apply to become authorized foreign exchange banks; (2) revising provisions governing the installation of foreign currency ATMs and those governing FX business conducted through electronic or communications equipment. The Bank also amended the *Directions Governing Authorized Banks*

for Operating Foreign Exchange Businesses Through Electronic and Communications Equipment on the same day, broadening the stipulated business scope, streamlining the application procedures, and renaming the law as the *Directions Governing Authorized Banks for Operating Foreign Exchange Businesses Through Electronic or Communications Equipment*.

(2) Insurance Companies

As of the end of 2019, the numbers of insurance companies allowed to engage in foreign currency insurance business for traditional and investment-linked foreign currency insurance products were 20 and 21, respectively. The foreign currency premium revenue decreased by US\$1.6 billion, or 4.69%, from the previous year to US\$31.9 billion in 2019.

(3) Securities Firms

As securities firms would now be allowed to issue exchange-traded notes (ETNs) that track foreign underlying indices, the Bank stipulated on February 18, 2019, the procedures and compliance matters governing the application by securities firms to the Bank.

In 2019, the Bank also approved more cases for securities firms to conduct FX business. As shown in the following table, the most approved cases were five for "proprietary foreign securities trading neither belonging to investment with their own funds nor for hedging needs," followed by two cases in each of the categories of "non-discretionary individually managed money trust wealth management," "structured notes linked to foreign financial products," and "issuance of ETNs tracking foreign underlying indices."

Approved Cases for Securities Firms to Conduct FX Business in 2019

FX Business	Number
Agents for foreign bond trading	1
Proprietary foreign securities trading neither belonging to investment with their own funds nor for hedging needs	5
Foreign currency spot exchange transactions	1
Accepting orders to trade foreign securities	1
Underwriting of international bonds	1
Non-discretionary individually managed money trust wealth management	2
Structured notes linked to foreign financial products	2
Issuance of ETNs tracking foreign underlying indices	2

Source: Department of Foreign Exchange, CBC.

(4) Investment Trust/Consulting Firms, and Futures Firms

The approved cases granted by the Bank for investment trust and investment consulting firms and futures firms to conduct FX business as of 2019 are shown in the following table.

Approved Cases for Investment Trust/Consulting Firms and Futures Firms to Conduct FX Business in 2019

Institution	FX Business	Number
Investment trust and investment consulting firms	Serving as mandated institution of private offshore funds	3
	Foreign currency discretionary investments in foreign securities	3
	Conducting public offer or private placement of foreign currency-denominated funds	2

Source: Department of Foreign Exchange, CBC.

Foreign Currency Clearing Platform

Taiwan's foreign currency clearing platform, consigned by the Bank and established by the Financial Information Service Co., was inaugurated in 2013 and has continued to function smoothly ever since. The platform offers services for domestic and cross-border remittances (including cross-strait) of the renminbi and the Japanese yen, and domestic remittances of the US dollar, the euro, and the Australian dollar. The platform adopts a payment-versus-payment (PVP) mechanism among banks, a liquidity-saving mechanism for foreign currency remittances, and a delivery-versus-payment (DVP) mechanism for foreign currency bonds and bills.

Domestic Development of Foreign Currency Settlement Business in 2019

Currency	Domestic Participating Units	Settlements in 2019	
		Transactions	Amount
US dollar	69	1,110,204	USD 1,934.3 billion
Renminbi	61	272,317	RMB 457.4 billion
Yen	41	30,428	JPY 1,247.3 billion
Euro	40	19,623	EUR 6.4 billion
Australian dollar	29	17,321	AUD 1.2 billion

Source: Department of Foreign Exchange, CBC.

Offshore Banking

In line with the amendment to the *Company Act* that no longer required foreign companies to gain authorization to be entitled with legal capacity in Taiwan, the Bank and the Financial

Supervisory Commission jointly amended the *Offshore Banking Act Enforcement Rules* and the *Regulations Governing the Establishment and Compliance Matters of Offshore Banking Branches*, effective November 11, 2019.

(1) Offshore Banking Units (OBUs)

At the end of 2019, the number of OBUs came to 59, and total OBU assets increased by US\$20.89 billion, or 10.4%, over the previous year to US\$221.86 billion. The net income after tax of all OBUs amounted to US\$3.21 billion, increasing US\$0.37 billion, or 13.1%, from a year before.

(2) Offshore Securities Units (OSUs)

At the end of 2019, the number of OSUs stood at 19, and total OSU assets reached US\$6.17 billion, an increase of US\$1.81 billion or 41.6%. The net income after tax of OSUs turned from a net loss of US\$20.09 million the previous year into a net gain of US\$150.15 million, representing an increase of US\$170.24 million.

(3) Offshore Insurance Units (OIUs)

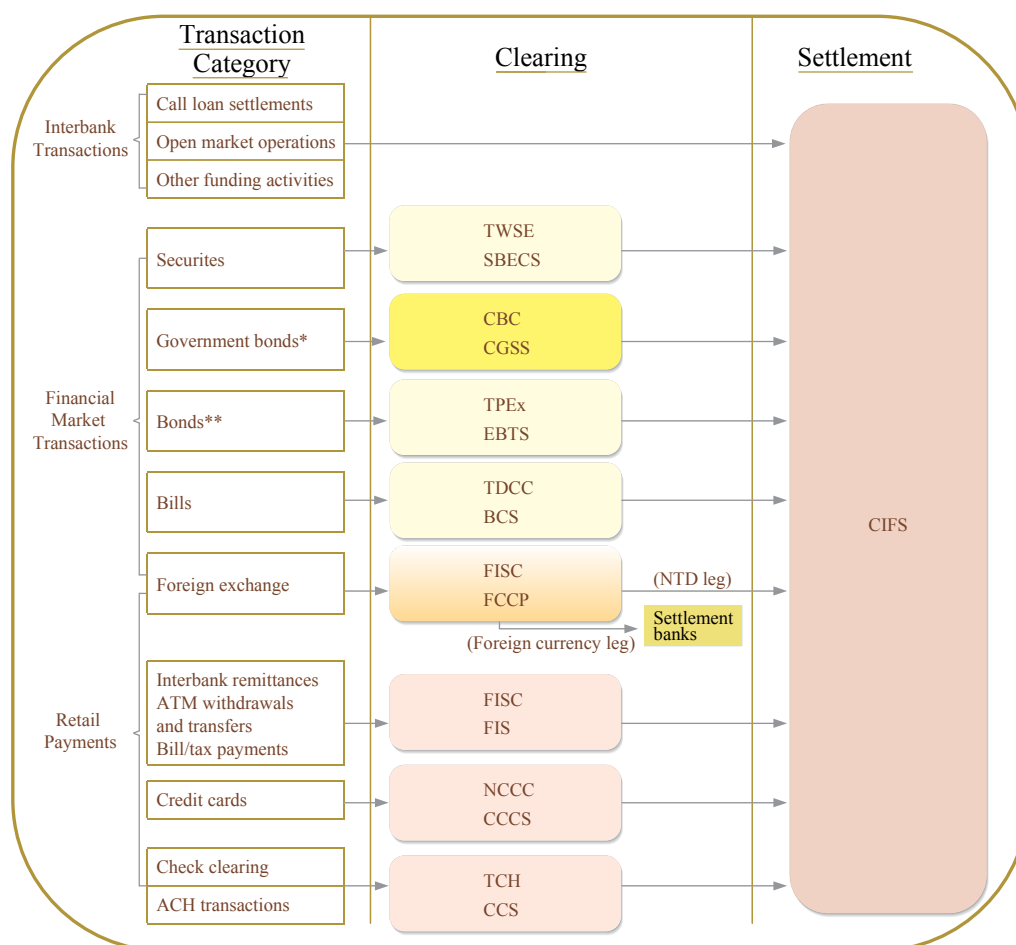
As of the end of 2019, the number of OIUs was 20, with a total amount of assets of US\$0.94 billion, which was US\$0.13 billion or 16.3% more than the previous year end. The net income after tax of all OIUs became a net loss of US\$0.17 million, decreasing by US\$2.10 million from the positive gain of US\$1.93 million in 2018.

4. Payment and Settlement Systems

The Bank plays a crucial role in the functioning of Taiwan's payment and settlement systems, and operates the CBC Interbank Funds Transfer System (CIFS) and the Central Government Securities Settlement System (CGSS).

The CIFS serves as the hub of Taiwan's payment and settlement systems, linking the interbank clearing systems operated by the Financial Information Service Co., Ltd. (FISC), the Taiwan Clearing House (TCH), the National Credit Card Center of R.O.C. (NCCC), the Taiwan Depository and Clearing Corporation (TDCC), the Taipei Exchange (TPEX), and the Taiwan Stock Exchange Corporation (TWSE), as well as the CGSS, together to construct a comprehensive system.

CIFS Settlement Services



Notes: * Including DVP settlements for interbank transactions of central government bonds and treasury bills.

** Including netting settlements for outright trades of government bonds, corporate bonds, and financial bonds.

Source: CBC.

In addition, the Bank monitors major payment systems based on the *Principles for Financial Market Infrastructures* released by the Bank for International Settlements (BIS) to ensure sound operation of these systems and to promote stability of the financial system.

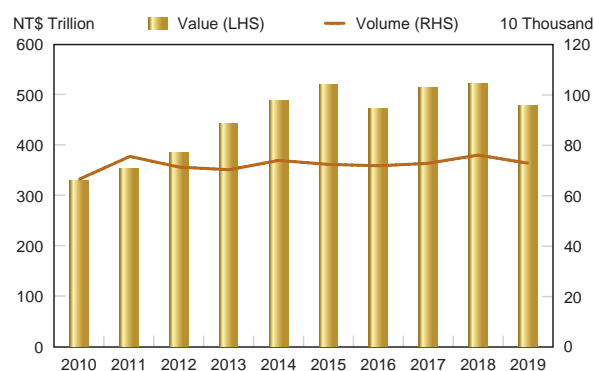
Operation of Payment and Settlement Systems

(1) Funds Transfers via the CIFS

As a large-value electronic funds transfer system, the CIFS not only deals with interbank funding, open market operations, and funds settlements in financial markets, but also provides interbank final settlement services for each clearing institution.

At the end of 2019, participants of the CIFS included 66 banks, eight bills finance companies, Chunghwa Post, and six clearing institutions such as the FISC, the TCH, the TDCC, the TWSE, the TPEX, and the NCCC. In the year 2019, the number of transactions via the CIFS was 732,046, and the amount of funds transferred totaled NT\$482 trillion. Meanwhile, the daily average number of transactions via the CIFS was 2,964 and the daily average amount of funds transferred was NT\$1,953.8 billion, decreasing by 3.70% and 7.65% from the previous year, respectively.

Transaction Value and Volume of the CIFS



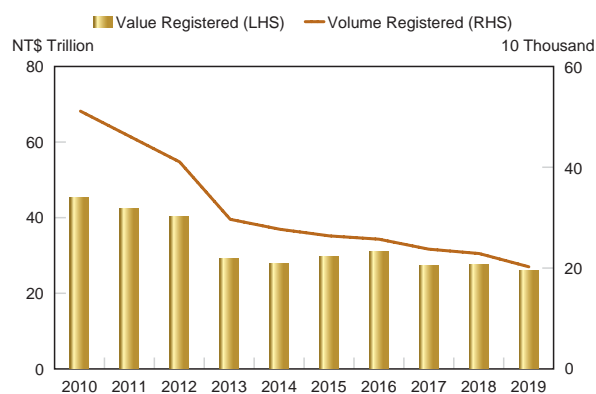
Source: Department of Banking, CBC.

(2) Transactions via the CGSS

Established in September 1997, the CGSS is a system for issuance, transfer, redemption, and interest payment of book-entry central government securities. Since its inception, central government bonds have been issued in book-entry form. In October 2001, treasury bills were included in this system and have been issued in book-entry form ever since.

Since April 2008, when the CGSS linked up with the CIFS, fund settlements, principal redemptions, and interest payments have been handled through the CIFS using a delivery-versus-payment (DVP)

Transaction Value and Volume of the CGSS



Source: Department of Treasury, CBC.

mode. The DVP mode, promoted by the BIS, is an arrangement in a securities settlement system to ensure that securities delivery occurs at the same time as the funds transfer, effectively eliminating potential principal risk during the transaction process.

As of the end of 2019, there were 18 clearing banks with 1,676 branches that handled the registration of central government securities transfers. In 2019, this system processed 204,115 transfers with a total amount of NT\$26.3 trillion.

Oversight of Payment and Settlement Systems

To ensure sound operation of domestic payment and settlement systems and maintain their safety and efficiency, the Bank conducted the following oversight activities in 2019:

(1) Monitoring the Operation of Payment and Settlement Systems

In 2019, the Bank continued to monitor the operation of the payment and settlement systems. During the year, 14 applications for the CIFS operation time extensions were filed by participating institutions because of system malfunctions or other contingencies. The Bank required these institutions to submit improvement reports.

(2) Requiring Payment Institutions to Submit Information on Electronic Payment Business

Payment system operators and electronic payment service providers were required by the Bank to submit information about their operations and activities with regard to electronic payments on a regular basis.

Furthermore, the Bank kept close watch on the development of financial technology (fintech) and innovations in the payment industry through meetings with relevant parties to reinforce communication.

(3) Supervising Contingency Drills Performed by Clearing Institutions

During 2019, the Bank supervised clearing institutions conducting testing of business continuity plans and remote backup operations in case of emergency. Furthermore, the Bank, in collaboration with participants of the CIFS, performed a dry run of the operating procedures in the scenario that disruptions to system network connectivity occur. Based on the outcomes, the Bank reviewed and updated relevant procedures, which were later provided as guidance for participating institutions.

(4) Organizing Conferences to Enhance Payment System Operation

The Bank invited the Financial Supervisory Commission (FSC) and clearing institutions to jointly hold two conferences on "Promoting Sound Operation of the Payment Systems," through which the

Bank urged clearing institutions to strengthen risk management of cybersecurity and enhance the use of big data in innovative operations. The conferences were convened separately by type of business. The conference in May was held for securities clearing institutions such as the TDCC, the TPEx, and the TWSE, while the one in November was attended by payment clearing institutions including the FISC, the TCH, and the NCCC.

(5) Requiring the TCH to Disclose Financial Information

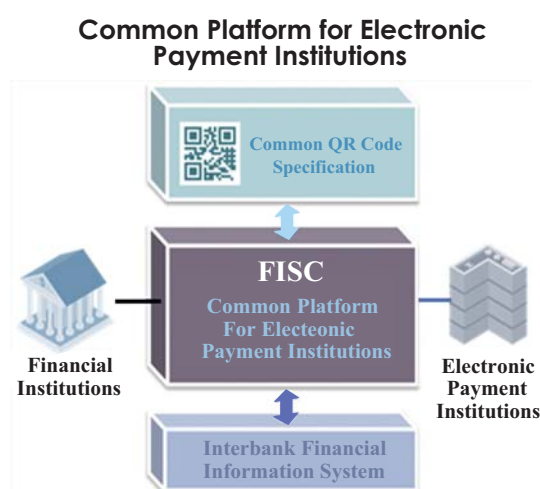
In line with the commencement of the *Foundations Act*, the Bank supervised the TCH to revise related rules and regulations, and required the TCH to disclose financial statements on its website pursuant to Article 25 of the Act. Related information such as the TCH's budget and final accounts as well as the Bank's on-site audit results was also published in the information disclosure section on the Bank's Chinese-language website.

Supporting the Establishment of the "Common Platform for Electronic Payment Institutions" to Strengthen Retail Payment Infrastructure

To achieve interoperability across multiple mobile payment services, many countries started to roll out their own standardized QR code specifications. In Taiwan, the FISC collaborated with banks and developed the "Taiwan Pay Common QR Code Payment Specification" (hereafter referred to as the common QR code specification) at the end of 2017.

With the development of the common QR code specification, the Bank instructed the FISC to establish the "Common Platform for Electronic Payment Institutions" to incorporate electronic payment institutions (EPIs) into the direct participants of the interbank financial information system. Through this platform, the funds can be transferred between EPIs and between banks and EPIs. This would help facilitate funds settlements at higher speed and enhance the convenience of mobile payment services for vendors and consumers.

The FISC has completed the initial development of the platform and offered EPIs to apply for trials in October 2019. In the meantime, to coordinate with the aforementioned efforts, the competent authority, the FSC, is working on the amendments to the *Act Governing Electronic Payment Institutions*. Once these amendments come into force, the platform will officially start operating.



Source: Department of Banking, CBC.

Conducting Research on the Central Bank Digital Currency

Given that existing domestic payment market infrastructures have been operating efficiently and smoothly, there is no urgent need to issue a central bank digital currency (CBDC) in Taiwan at the moment. However, given the evolving trends in the digital economy, it is imperative for central banks to closely monitor the developments of CBDCs and the applicability of related technologies. Therefore, the Bank organized a research team in May 2019 to investigate the ongoing development of technologies regarding CBDCs, blockchain, and electronic payments.

As the issuance of a CBDC involves complicated issues and requires careful consideration, the Bank's research team has been cooperating with academics and industry specialists to study the technologies and explore the possibility for issuing a wholesale CBDC. In the future, depending on the aforesaid research results, the team might proceed to research on a general purpose CBDC.

5. Currency Issuance

The Bank acts as the issuing authority for the nation's currency and is dedicated to providing a stable and reliable currency for the public to foster economic activity and maintain public confidence in the currency.

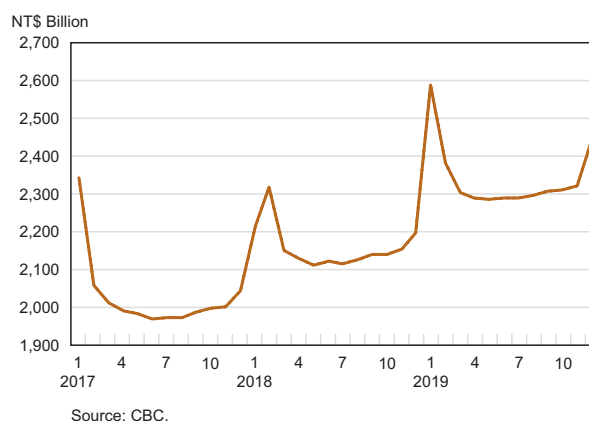
For the year 2019, the Bank maintained the supply of currency at an optimum level to meet public demand, which is subject to a variety of factors from Taiwan's economic conditions and seasonal factors to the development of noncash payment instruments. The Bank also issued commemorative coin sets featuring the Chinese zodiac of the year and national parks of Taiwan. Meanwhile, the Bank's endeavors to promote public awareness of counterfeit deterrence and encourage the use of circulating currency continued through various channels.

Currency Issuance Rose in Response to Currency Demand

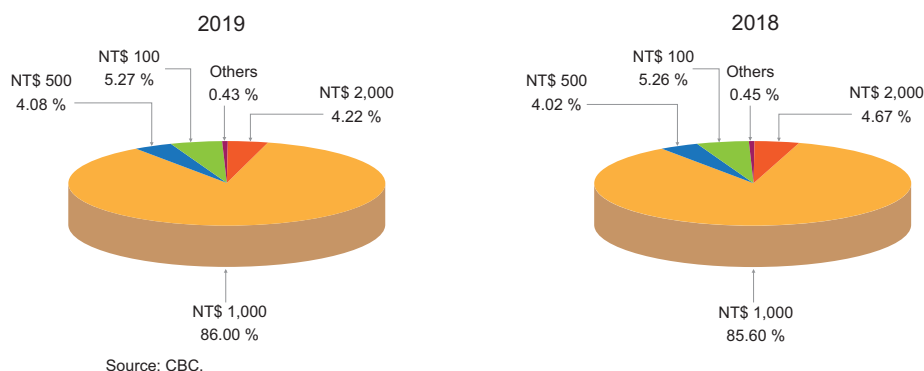
In 2019, the Bank provided an adequate amount of currency in response to currency demand. The currency issued peaked at NT\$2,617.5 billion on February 1, the last business day before the Lunar New Year holidays, reflecting a temporary seasonal surge in cash demand. At the year end, the outstanding amount of currency issued was NT\$2,447.3 billion, rising by NT\$250.0 billion or 11.38% over the previous year end.

By denomination, the composition of NT dollar banknotes in circulation at the end

Currency Issued



**Composition of NT Dollar Banknotes Issued
(Year-End Figures)**

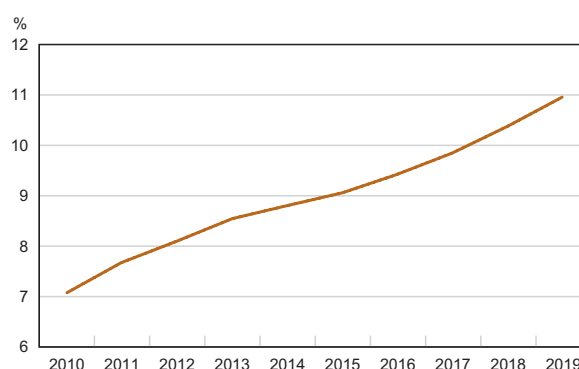


of 2019 was similar to the end of 2018. The NT\$1,000 note accounted for a dominant share at 86.00%. The NT\$100 and NT\$2,000 notes came in second and third with shares of 5.27% and 4.22%, respectively.

Currency in Circulation to GDP Trended Up

As domestic interest rates stayed at relatively low levels and cash was still frequently used for small-value transactions, the public's demand for currency remained high. The ratio of currency in circulation to GDP has continued to rise steadily since 2010 and reached 10.98% in 2019, 0.58 percentage points higher than the 10.40% of the previous year.

The Ratio of Currency Held by the Public to GDP



Sources: 1. CBC.
2. DGBAS, Executive Yuan.

Two Commemorative Coin Sets Were Issued

The Bank may also issue gold and silver coins and commemorative notes and coins from time to time, such as for important ceremonies, national holidays, major international events or other significant national events. During 2019, the Bank issued a casting set of coins for the Chinese Zodiac Year of the Pig, and the eighth coin set of the National Parks of Taiwan series - Taijiang National Park.



Source: CBC.

The Bank Continued to Encourage the Use of Circulating Currency and Raise Public Awareness of Counterfeit Money

In order to deter and prevent counterfeiting, reduce currency issuing costs, and protect the environment by maximizing existing resources, the Bank launched several advertising campaigns

during the year to enhance public understanding on the security features of NT dollar notes and coins and to promote the use of circulating currency.

Meanwhile, the Bank strove to improve the cleanliness of currency by inspecting returned banknotes and destroying damaged ones. Efforts to urge the public to help maintain the cleanliness of circulating notes and coins continued in 2019.

Educational materials for these campaigns were provided through multiple channels. For example, relevant videos were broadcasted on media such as the Bank's website, the Virtual Money Museum, YouTube, and the Bank's official mobile app. Information was also posted on the Bank's Facebook fan page and displayed on public transportation. Leaflets were distributed to the public and relevant institutions.

6. Fiscal Agency Functions

The Bank, as the fiscal agent of the government, offers services for the national treasury, such as handling the treasury deposit account (TDA), managing central government agency deposit accounts, and undertaking the issuance, transfer and registration, redemption, and interest payment of central government bonds and treasury bills.

Managing the Treasury Deposit Account

The Bank manages the TDA on behalf of the Ministry of Finance (MOF), processing receipts and disbursements of the central government. In order to provide convenient services for government agencies and the general public, the Bank delegates the handling of treasury business to 14 financial institutions and their 364 branches, including three overseas branches located in New York, Los Angeles, and Paris. In addition, there are another 4,743 national tax collection agencies set in financial institutions. In 2019, the Bank received a total of NT\$3,534.5 billion in treasury deposits, an increase of NT\$283.4 billion or 8.72% over the previous year. Payments made on behalf of the national treasury were NT\$3,496.1 billion, increasing by NT\$244.7 billion or 7.53% from 2018. At the end of 2019, the TDA balance was NT\$58.0 billion, an increase of NT\$38.5 billion or 197.44% from the end of 2018.

Handling Central Government Agency Deposits

Central government agencies are required to make their deposits with the Bank or other delegated banks. At the end of 2019, the balance of central government agencies' deposits with the Bank amounted to NT\$181.4 billion, an increase of NT\$10.5 billion or 6.14% over 2018. Deposits with other delegated banks were NT\$585.9 billion at the end of 2019, increasing by NT\$24.2 billion or 4.31%.

Establishing a QR Code-Based National Treasury Fee Payment Mechanism

In order to provide the public with more convenient and diversified channels to pay national treasury fees, the Bank requested the Financial Information Service Co. (FISC) to add the national treasury fee payment service to the FISC's nationwide bill payment service (e-Bill) mobile app, effective from June 2019.

Furthermore, in October 2019, the Bank launched the "QR Code-Based National Treasury Fee Payment Mechanism," in which QR codes would be produced based on the Common QR Code Payment Specification developed by the FISC. The mechanism allows payers to scan the QR Code on their national treasury fee bills or at financial institutions' counters using the Taiwan Mobile Payment app or other mobile banking apps. Such payments would be made via payers' mobile debit cards or be debited from their bank accounts immediately.

Managing Central Government Bonds

As a fiscal agent, the Bank provides services related to the issuance, transfer and registration, redemption, and interest payment of central government bonds. The Bank also conducts the auctions of central government bonds. There are 57 domestic dealers qualified to directly participate in the auctions, including 23 banks, 19 securities companies, eight bills finance companies, six insurance companies, and Chunghwa Post.

In 2019, the Bank conducted 16 issues of central government bonds in book-entry form worth NT\$410.0 billion. Of this amount, 10-year bonds accounted for the lion's share of 41.46%, with NT\$170.0 billion, followed by 5-year bonds, representing 21.95% with an amount of NT\$90.0 billion.

In addition, the Bank paid NT\$485.3 billion in principal and NT\$102.7 billion in interest for central government bonds. At the end of 2019, the outstanding amount of central government bonds was NT\$5,483.3 billion, a decline of NT\$75.3 billion or 1.35% from the previous year end.

Managing Treasury Bills

The Bank also handles the auctions of treasury bills. Currently, direct bidders include banks, insurance companies, securities companies, bills finance companies, and Chunghwa Post.

In 2019, the Bank conducted 10 issues of book-entry treasury bills with a total amount of NT\$314.0 billion. The majority of the issuance went for 182-day bills with NT\$130.0 billion, or a share of 41.4%. At the end of 2019, the outstanding amount of treasury bills was NT\$65.0 billion, increasing by NT\$35.0 billion or 116.7% from the end of 2018.

7. Financial Inspection

Pursuant to the objectives and duties stipulated in *The Central Bank of the Republic of China (Taiwan) Act*, the Bank conducts targeted examinations to ensure that monetary, credit, and foreign exchange policies are implemented effectively. The Bank has also established a report auditing system and a financial stability assessment framework to systematically monitor and assess possible sources of potential risks. The Bank then adopts appropriate policies in a timely manner to achieve the operational goal of financial stability. The followings are the main tasks conducted in 2019.

On-Site Examination

Targeted examinations in 2019 were conducted on high-priced housing loans, banks' interest rates and required reserves, net stable funding ratios, counterfeit money processing (either in terms of the NT dollar or foreign currency), foreign currency exchange, foreign exchange remittances, foreign exchange transfer messages, refund of over-remitted amount of foreign direct investment, foreign currency loan and guarantee business, etc.

Follow-up on Examination Findings

To ensure the effectiveness of the Bank's policies, the Bank continued to track whether the financial institutions under inspection had improved their operations, based on the findings from the Bank's targeted examinations as well as the results of the Financial Supervisory Commission's financial examinations that are related to the central bank's operations or regulations. A particular focus was on violations of the *Regulations on High-Priced Housing Loans by Financial Institutions*, which are punishable by the Bank or the Financial Supervisory Commission.

Strengthening Off-Site Monitoring

In view of changes in financial conditions and amendments to financial regulations and accounting standards, the Bank constantly reviews and revises all relevant reporting forms and contents of statistical data submitted by financial institutions. Developments related to off-site monitoring in 2019 included the following:

- (1) To reflect the changes in business and risks of the bills finance industry, the analytical items and principles of the report auditing system CARSEL were reviewed and modified.
- (2) In accordance with the rules on accounting for leases under the *International Financial Reporting Standard 16 (IFRS 16)*, relevant reports and their analytical categories of financial institutions were modified.

- (3) Threshold standards in the *Credit Services Reporting Table* and the *Operational Procedures to Enhance Monitoring of Report Auditing of Commercial Banks' Financial Derivatives* were amended. The *Reporting Table of the Unsecured Bills Underwritten* and the *Secured Loan Collateral Analytical Table* for the monitoring of bills finance companies were added.

Improving Information Transparency of Financial Institution Operations

The Bank regularly compiles and publishes financial institution statistics, such as *Condition and Performance of Domestic Banks (Quarterly)*, *Business Overview of Financial Institutions (Yearly)* and *Major Business Statistics of Financial Institutions*. All related information is disclosed on the Bank's website to strengthen operational transparency of financial institutions and to reinforce self-discipline of the market.

Financial Stability Assessment

The Bank regularly conducts analysis on commercial banks' business operations and their risk exposure so as to understand the impacts on stability of the overall financial system. It also compiles financial soundness indicators and publishes the *Financial Stability Reports* to keep the public updated on the state of the domestic financial system and sources of potential risks and to aid cross-border communication and information sharing.

To enhance analytical effectiveness regarding financial stability, the Bank continued to improve the Graphical User Interface of Credit and Market Risks Models and completed a visual interactive dashboard design for analysis of domestic banks' credit business and risks. The Bank also inquired into the implications of new liquidity regulations of Basel III for the domestic banking sector.

International Cooperation in Financial Supervision

In 2019, the Bank continued to actively engage in international cooperation related to financial supervision, such as attending the 10th SEACEN Meeting of Deputy Governors in Charge of Financial Stability and Banking Supervision, the 21st SEACEN-FSI Conference of the Directors of Supervision of Asia-Pacific Economies, and the 32nd Meeting of Directors of Supervision of SEACEN Members. The Bank also received delegations of financial supervisors from various Asian countries.

8. Participation in International Activities

As a member, the Bank hosts conferences, provides training courses, and attends numerous forums, including the annual meetings organized by the Asian Development Bank (ADB), the Central American Bank for Economic Integration (CABEI), and the South East Asian Central Banks (SEACEN) group. In addition, the Bank also maintains close relationships with the Inter-American Development Bank (IDB), the European Bank for Reconstruction and Development (EBRD), the Bank for International Settlements (BIS), and the Asia/Pacific Group on Money Laundering (APG). Furthermore, the Bank strengthens its ties with other central banks and related institutions to share policy experience and discuss current financial and economic issues.

In 2019, the Bank contributed to a wide-ranging agenda of participation in international activities. The Bank attended the 55th annual conference of governors held by SEACEN in Singapore. At this two-day conference from November 13 to 14, the Bank exchanged views with other member banks on issues related to digital transformation, including the role of personal data in digital financial innovation, the tradeoffs between financial stability, fair competition and data protection, as well as resulting policy challenges. Moreover, the Bank hosted the SEACEN Course on Off-site Monitoring during November 3 to 8.

Meanwhile, the Bank participated in the meetings held by other international organizations, such as the CABEI's Ordinary Meeting of the Board of Governors in San Salvador de Jujuy, Argentina, on April 26 and 27, the ADB's annual meeting in Nadi, Fiji, from May 1 to 5, the BIS' annual general meeting in Basel, Switzerland, on June 30, and the IDB's 60th anniversary celebration in Washington, D.C., the US, from September 26 to 27. In addition, the Bank attended the APG's annual meeting in Canberra, Australia, from August 18 to 23. At the meeting, the third round Mutual Evaluation Report for Taiwan was adopted and Taiwan's placement in the "regular follow-up" category was approved by the APG, reflecting an upgrade from Taiwan's 2011 placement on the "enhanced follow-up" list. This outcome proved the effectiveness of government efforts in combating money laundering.

SEACEN Course on Off-site Monitoring Hosted by the Bank

The Opening Ceremony



Lectures, Participant Interactions, and Group Discussion Sessions



Source: Department of Financial Inspection, CBC.